

REMARKS

Entry of the amendments is respectfully requested. Claims 1, 3, and 4 have been amended. New claims 5-8 have been added. Claims 1-8 are pending in the application. Favorable reconsideration and allowance of this application is respectfully requested in light of the foregoing amendments and the remarks that follow.

1. **Amendments to the Drawings**

The drawings have been objected to for not including a soil compaction device, as claimed. To address this objection, submitted herewith is a new Fig. 1 that schematically shows a soil compaction device with a handle. No new subject matter has been added, as support for the soil compaction device can be found at, e.g., page 3, line 14 of the specification. The existing drawing has been renumbered "Fig. 2." Withdrawal of the rejection is therefore requested.

2. **Amendments to the Specification**

The title has been objected to for not being descriptive. The title has been changed to "*Soil Compaction Device Having a Light Detector*" to address this objection. Withdrawal of the objection is therefore requested.

The specification has been amended at page 3 to update the "Brief Description" portion of the application and to add reference numeral 10 to the soil compaction device of new Fig. 1.

3. Rejection Under §112, Second Paragraph

Claims 1-4 stand rejected under 35 U.S.C. §112, ¶2 as being indefinite. Claims 1, 3, and 4 have been amended to address this rejection and to place the claims in better conformance with preferred U.S. Patent Office practice.

Specifically, claim 1 has been amended to provide antecedent basis for "area," "hand," "brightness," and "surrounding conditions." In claim 1, the parenthetical "(brightness signal)" has been deleted. However, a brightness signal is a limitation and remains in the claim. It is an indicator of brightness (light intensity).

Claim 3 has been amended to specify that the light detector in claim 3 is the light detector at the guide handle. Claim 3 has also been amended to delete "(LDR light-dependent resistor)" therefrom. It should be understood that a light-sensitive resistor can include a light-dependent resistor, as this is so stated in the specification at page 3, line 18.

Claim 4 has been amended to provide antecedent basis for "grip area."

In light of the amendments and the foregoing arguments, withdrawal of this rejection is requested.

4. Rejections Based on the Prior Art

a. Recapitulation of the Invention¹

This invention relates to a soil compaction device that includes a guide handle and at least one light detector located on the guide handle in an area gripped by a hand. The light detector emits a signal corresponding to a brightness (light intensity). The soil compaction device also includes a control unit and an evaluation circuit that is coupled to the light detector. The evaluation circuit can evaluate the brightness signal in such a way that when a prescribed brightness threshold is either exceeded or is not met, a control signal is sent to the control unit of the soil compaction device. The soil compaction device additionally includes a surrounding light detector that is coupled to the evaluation circuit and is provided outside the grip area of the hand to determine surrounding conditions. The evaluation circuit can variably adjust the brightness threshold according to the surrounding conditions detected by the surrounding light detector.

b. Rejection of Claims 1-4 Under § 103

The rejection of claims 1-4 as unpatentable over Fassauer, U.S. Patent 5,210,996 in view of Herman et al., U.S. Patent 5,367,158 is respectfully traversed, because, *inter alia*, there is no teaching or suggestion to combine or modify the references to produce the claimed invention. MPEP §2143.01. Furthermore, even if the references were combined, the invention would not result. The Examiner correctly recognizes that Fassauer fails to show the use of a surrounding

¹ This Section 4a is intended to provide the Examiner with some background information on the state of the art and applicant's contribution to it. It is *not* intended to distinguish specific claims from the prior art. That task is performed in Section 4b below.

light detector and cites Herman et al. to cure this deficiency. However, Herman et al. cannot cure the deficiencies of Fassauer. For instance, even if the references were combined, a soil compaction device having an evaluation circuit that can adjust a brightness threshold according to the surrounding conditions, as claim 1 requires, would not be provided. Further, the combined teachings of Fassauer and Herman et al. fail to teach or suggest the additional requirement of claim 1 of a surrounding light detector that is provided outside a grip area of the hand to determine surrounding conditions. The combined teachings further fail to teach or suggest "an evaluation circuit that can evaluate the brightness signal in such a way that when a prescribed brightness threshold is exceeded or is not met," as claim 1 also requires.

The Fassauer patent discloses an air-floated apparatus, such as an air-floated lawn mower 10. As is shown in Fig. 20, the lawn mower 10 includes a photoelectric eye 202 that is mounted to a handle 204 of the lawn mower. The eye 202 is positioned for detecting light rearwardly of its mounted position on handle 204. During operation of the mower, the user's hand will cover photoelectric eye 202 so that eye 202 is in a darkened condition. Eye 202 controls an electronic switching circuit such as that illustrated in Fig. 8, for disabling the lawn mower (or, alternatively, for declutching the cutting blade from the mower engine) when eye 202 detects light, such as when the user removes his hand from handle 204. (col. 15, lines 10-20). As acknowledged by the Examiner, Fassauer fails to show the use of a surrounding light detector, as claim 1 requires.

The Herman et al. patent discloses a photoelectric switch 10 for use with a machine control circuit. The photoelectric switch 10 has an electronic circuit board 12 to which is

attached a cover 14, which has a flat base 20 which is cemented to the periphery of the circuit board 12 and a protruding finger rest 22. The protruding finger rest 22 has centrally located finger rest 24 contoured to comfortably support at least two fingers of an operator. A pair of spatially separated finger guides 26 and 28 are provided on opposite sides of the finger rest surface 24 and provide for positive location of one or more fingers onto finger rest surface 24. (col. 1, line 48 – col. 2, line 7).

The finger guides 26 and 28 are hollow and respectively enclose a light emitting diode 30 and a phototransistor 32 attached to the circuit board 12. Light emitting diode 30 and a phototransistor 32 are disposed in the finger guides 26 and 28 so that the direct path of light between these two elements is external to the cover 14 and a cross-finger rest surface 24. (col. 3, lines 48 – col. 4, line 7).

The circuit board 12 contains an electronic circuit 38 and includes a multiple contact relay 40, the light emitting diode 30, the phototransistor 32, and an electrical connector 42, which permits AC electrical power to be provided to the electronic circuit 38 and permits electrical signals generated by the photoelectric switch to be transmitted to a utilization device such as a machine controller. (col. 4, lines 21-29).

When a machine control and logic circuit 56 receives a signal from both photoelectric switches 10 and 10' signifying that the normally closed contacts are closed, it will inhibit operation of the machine. Conversely, when the control and logic circuit 56 receives a signal signifying that the relay has been activated to close the normally open contact, it will activate the

machine. The relay 40 is activated when the light path between the light emitting diode 30 and the phototransistor 32 is broken or blocked by the operator placing at least one finger on the finger rest surface 24. (col. 5, lines 4-16).

In the event of a high ambient infrared illumination being present which would prevent operation or unreliable operation of circuit 38, the circuit 38 includes a high ambient infrared fault detection circuit responsive to the high ambient infrared illumination to disable relay 40 and actuate the fault light emitting diode 204. (col. 9, lines 18-23). When the ambient infrared illumination exceeds a predetermined level, the potential at the junction between photoresistor 32 and resistor 142 becomes greater than the potential at the positive input to comparator 200 causing its output to become a ground potential, thereby ultimately deactivating relay 40. (col. 9, lines 48-50). Thus, Herman et al. fails to teach or suggest an evaluation circuit that can adjust a brightness threshold according to the surrounding conditions, as claim 1 requires. Instead, Herman et al. discloses a circuit that inhibits the activation of a relay 40 when ambient light level is above a *predetermined* level that is not an *adjustable* level.

Furthermore, Herman et al. fails to teach or suggest a surrounding light detector that is provided outside the grip area of the hand to determine the surrounding conditions, as claim 1 further requires. In contrast, the phototransistor 32 is located in the finger guides 26 and 28.

Moreover, Herman et al. fails to teach or suggest the additional requirement of claim 1 of an evaluation circuit that can evaluate the brightness signal in such a way that when a prescribed

brightness threshold is *either* exceeded or is not met. Instead, in Herman et al., only high ambient infrared light is dealt with.

For at least these reasons, the references alone or in combination fail to teach or suggest the soil compaction device of claim 1.

Dependent claims 2-4 are believed to be in condition for allowance for incorporating by reference the limitations of claim 1 and for defining additional features of the invention, which, when considered in combination with those of claim 1 are neither disclosed nor suggested by the prior art relied upon in the rejection.

In light of the foregoing, withdrawal of the rejection of claims 1-4 is respectfully requested.

5. New Claims

New claims 5-8 have been added and generally track original claims 1-4. New claims 5-8 are in even better conformance with preferred U.S. Patent Office practice. Claims 5-8 are believed to be in condition for allowance for at least the reasons claims 1-4 are believed to be in condition for allowance.

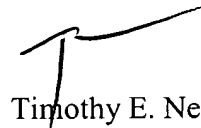
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CONCLUSION

It is submitted that original claims 1-4 are in compliance with 35 U.S.C. §§ 112 and 103 and each defines patentable subject matter. New claims 5-8 are also believed to be allowable. A Notice of Allowance is therefore respectfully requested.

A check in the amount of \$110.00 is enclosed in payment of the fee associated with a request for a one-month's extension of time by a *large* entity, which applicant hereby makes. Should the Examiner consider any additional fees to be payable in conjunction with this or any future communication, the Director is authorized to direct payment of such fees, or credit any overpayment to Deposit Account No. 50-1170. The Examiner is invited to contact the undersigned by telephone if it would help expedite matters.

Respectfully submitted,



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